

What is claimed is:

- sub B'*
- 1 1. A method of controlling call admission in a communications
2 network, comprising:
3 calculating a load level as a function of at least one of a change in
4 power measurements or a change in number of users values; and
5 controlling call admission based on the calculated load level.
- low power with threshold*

- sub Q'*
- 1 2. The method of claim 1, wherein said calculating step utilizes a first
2 load level estimating method to calculate an initial load level, and utilizes
3 at least a second load level estimating method to recursively calculate
4 updated load levels.

- 1 3. The method of claim 1, wherein said calculating step estimates load
2 level as a function of a change in power measurements and a change in
3 number of users values.

- 1 4. The method of claim 3, wherein said calculating step estimates load
2 level, L_{new} , by solving:

$$L_{new}(N_{new}, P_{new}) = \frac{N_{new} \times (P_{new} - P_{old})}{N_{new} \times (P_{new} - P_{old}) + P_{old} \times (N_{new} - N_{old})},$$

- 5 where N_{new} and N_{old} are current and previous number of users values
6 respectively, and P_{new} and P_{old} are current and previous power
7 measurements respectively.

- sub Q'*
- 1 5. The method of claim 1, wherein said calculating step recursively
2 updates load level as a function of a change in number of users values.

1 6. The method of claim 1, wherein said calculating step recursively
2 updates load level as a function of a change in power measurements.

1 7. The method of claim 5, wherein said calculating step estimates load
2 level, L_{new} , by solving:

3
$$L_{new} = L_{old} \times \frac{N_{new}}{N_{old}},$$

4 where L_{old} is a previously calculated load level, and N_{new} and N_{old} are
5 current and previous number of users values respectively.

1 8. The method of claim 6, wherein said calculating step estimates load
2 level, L_{new} , by solving:

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4
$$L_{new} = 1 - \frac{P_{old}}{P_{new}} \times (1 - L_{old}),$$

5 where L_{old} is a previously calculated load level, and P_{new} and P_{old} are
6 current and previous power measurements respectively.

Sub 9. 1 9. The method of claim 1, further comprising:
2 verifying a calculated load level before using the calculated load
3 level in said controlling step.

1 10. The method of claim 9, wherein said verifying step calculates an
2 estimated power measurement, $P_{new'}$, based on the calculated load level,
3 L_{new} , by solving:

4
5
$$P_{new'} = \frac{P_{old}(1 - L_{old})}{(1 - L_{new})},$$

6 where P_{old} is a previous power measurement and L_{old} is a previously
7 calculated load level, said verifying step comparing $P_{new'}$ with an actual

8 power measurement, P_{new} , to determine whether L_{new} is reasonably
9 accurate.

1 11. The method of claim 10, wherein, when said verifying step indicates
2 that the $P_{new'}$ is not sufficiently close to P_{new} , said calculating step
3 calculates load level by solving:

4
$$L_{new} = 1 - \frac{P_{old}}{P_{new}} \times (1 - L_{old}) .$$

1 12. A system of controlling call admissions in a communications
2 network, comprising:

3 load calculating means for calculating a load level as a function of
4 at least one of a change in power measurements or a change in number of
5 users values; and

6 control means for controlling call admission based on the calculated
7 load level.

54624 13. The system of claim 12, wherein said load calculating means
2 utilizes a first load level estimating technique to calculate an initial load
3 level, and utilizes at least a second load level estimating technique to
4 recursively calculate updated load levels.

1 14. The system of claim 12, wherein said load calculating means
2 estimates load level as a function of a change in power measurements and
3 a change in number of users values.

1 15. The system of claim 14, wherein said load calculating means
2 estimates load level, L_{new} , by solving:

3
4
$$L_{new}(N_{new}, P_{new}) = \frac{N_{new} \times (P_{new} - P_{old})}{N_{new} \times (P_{new} - P_{old}) + P_{old} \times (N_{new} - N_{old})} ,$$

5 where N_{new} and N_{old} are current and previous number of users values
6 respectively, and P_{new} and P_{old} are current and previous power
7 measurements respectively.

Sub 9⁵ 16. The system of claim 12, wherein said load calculating means
2 recursively updates load level as a function of a change in number of
3 users values.

1 17. The system of claim 12, wherein said load calculating means
2 recursively updates load level as a function of a change in power
3 measurements.

1 18. The system of claim 16, wherein said load calculating means
2 estimates load level, L_{new} , by solving:
3

$$L_{new} = L_{old} \times \frac{N_{new}}{N_{old}},$$

5 where L_{old} is a previously calculated load level, and N_{new} and N_{old} are
6 current and previous number of users values respectively.

1 19. The system of claim 17, wherein said load calculating means
2 estimates load level, L_{new} , by solving:
3

$$L_{new} = 1 - \frac{P_{old}}{P_{new}} \times (1 - L_{old}),$$

5 where L_{old} is a previously calculated load level, and P_{new} and P_{old} are
6 current and previous received power measurements respectively.

Sub 9⁶ 20. The system of claim 12, further comprising:
2 verifying means for verifying a calculated load level before said
3 control means uses the calculated load level.

1 21. The system of claim 20, wherein said verifying means calculates an
2 estimated power measurement, $P_{new'}$, based on the calculated load level,
3 L_{new} , by solving:

$$P_{new'} = \frac{P_{old}(1 - L_{old})}{(1 - L_{new})},$$

6 where P_{old} is a previous power measurement and L_{old} is a previously
7 calculated load level, said verifying means comparing $P_{new'}$ with an actual
8 power measurement P_{new} to determine whether L_{new} is reasonably
9 accurate.

1 22. The system of claim 21, wherein, when said verifying means
2 indicates that the $P_{new'}$ is not sufficiently close to P_{new} , said calculating
3 means calculates load level by solving:

$$L_{new} = 1 - \frac{P_{old}}{P_{new}} \times (1 - L_{old}).$$

1 23. The system of claim 12, further comprising:
2 input means for receiving power measurements and number of user
3 values.

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